The external content may be captured using a variety of devices including a camera and/or a microphone.

After capturing external content, process **1800** moves to step **1806**. At step **1806**, the external content is displayed. For example, visual data captured by a camera may be displayed. In addition, sound data may also be displayed. For example, speech may be converted to displayed text. Alternatively or additionally, visual indicators associated with the sound data may be displayed.

In one embodiment, the external content and the stored content are simultaneously displayed. In one example, the stored content is displayed in a primary image frame while the external content is displayed in a secondary image frame. The secondary image frame may for example be a picture in picture ("PIP") image frame. In another example, the external content is displayed in a primary image frame while the stored content is displayed in a secondary image frame. In another embodiment, the external content interrupts the display of the stored content. For example, the external content may replace the stored content (e.g., the playing of the stored content may be paused while the external content is being captured and displayed).

Various enhancements may be applied to the present invention to further improve the head-mounted device. For example, the invention may provide methods and apparatus for providing a wider field of view and creating a more natural viewing situation for a user of a head-mounted display. This may result in improved comfort and usability for head mounted displays as described in U.S. Published Patent Application No. 2008/0088529, entitled "ENHANCED IMAGE DISPLAY IN HEAD-MOUNTED DISPLAYS", published Apr. 17, 2008, which is incorporated by reference herein in its entirety.

The invention may also provide methods and apparatus for treating the peripheral area of a user's field of view in a head-mounted display. This helps to create improved comfort and usability for head-mounted displays as described in U.S. Published Patent Application No. 2008/0088936, entitled "PERIPHERAL TREATMENT FOR HEAD-MOUNTED DISPLAYS", published on Apr. 17, 2008, which is incorporated by reference herein in its entirety.

FIG. **19** illustrates a process **1900** for displaying images in a head-mounted display apparatus to a user. The process **1900** includes block **1910** where stored media is displayed. The process also includes block **1920** where the user's surroundings are detected and at least one exterior condition is satisfied. The process also includes block **1930** where external media from the user's surroundings is captured in response to detecting the user's surroundings. The process further includes block **1940** where the captured external media is displayed.

In some embodiments, wherein detecting in block **1920** further comprises at least one of: detecting at least one object within a predetermined distance from the user; detecting at least one sound that exceeds a particular threshold; detecting at least voice matching a stored voiceprint (e.g., voiceprint associated with a person in user's contact list); detecting at least one word matching a particular word in a stored library of words (e.g., user's name); and detecting at least one phrase matching a particular phrase in a stored library of phrases.

In some embodiments, block **1910** further includes displaying left and right images corresponding to the stored media.

In some embodiments, displaying the captured external media of block **1940** comprises replacing the stored media with the captured external media. Replacing the stored media may include displaying left and right images corresponding to the captured external media.

In some embodiments, displaying the captured external media further includes displaying the captured external media in a PIP window.

FIG. **20** illustrates a process **2000** performed on a portable electronic device with a screen. The process includes in a first display mode **2010**, presenting image based content according to a first format. The first format has a first resolution and configures the screen for normal viewing. The process also includes in a second display mode **2020**, presenting image based content according to a second format. Wherein the second format has a second resolution and configures a portion of the screen for close up viewing. The process additionally includes block **2030** which comprises detecting that the portable electronic device is being used for normal viewing and switching to the first display mode. The process further includes block **2040** which comprises detecting that the portable electronic device is being used for close up viewing, and switching to the second display mode.

FIG. **21** is a method for displaying one or more image frames on a screen of a portable electronic device when the portable electronic device is connected to a head-mounted device. The method **2100** includes receiving an image frame (block **2110**). The method also includes dividing the image frame into a left image frame and a right image frame (block **2120**).The method further includes formatting the left and right image frames for close up viewing (block **2130**). The method additionally includes directing the left image frame to the left portion of the screen and directing the right image frame to the right portion of the screen (block **2140**).

In some embodiments dividing the image frame (block **2120**) includes duplicating the image frame to form the left and right image frames.

In some embodiments, the sizes of the left and right image frames are made smaller than the size of the screen.

The invention may further provide other features of head-mounted devices as described in co-pending U.S. patent application Ser. No. 12/114,499, entitled "HEAD MOUNTED DISPLAY", filed on May 2, 2007, which is incorporated by reference herein in its entirety.

The invention is preferably implemented by hardware, software or a combination of hardware and software. The software can be embodied as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data which can thereafter be read by a computer system. Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, DVDs, magnetic tape, optical data storage devices, and carrier waves. The computer readable medium can also be distributed over network-coupled computer systems so that the computer readable code is stored and executed in a distributed fashion.

Thus it is seen that systems and methods are provided for allowing users to couple a portable electronic device in the head-mounted device. It is also seen that systems and methods are provided for allowing users to see the outside world while wearing a head-mounted device. Persons skilled in the art will appreciate that the invention can be practiced by other than the described embodiments, which are presented for purposes of illustration and not of limitation, and the present invention is limited only by the claims which follow.

What is claimed is:

1. A head-mounted device that is operable with a removable cellular telephone with a display and a connector, the head-mounted device comprising: